

3.1 Practice A

In Exercises 1–6, solve the equation by graphing.

1. $x^2 - 6x + 5 = 0$

2. $x^2 - 6x + 9 = 0$

3. $x^2 - 25 = 0$

4. $x^2 - 4x - 12 = 0$

5. $12 = x^2 - 4$

6. $2x^2 - 3 = 5x$

In Exercises 7–9, solve the equation using square roots.

7. $t^2 = 100$

8. $g^2 = 64$

9. $(y + 2)^2 = 16$

10. Describe and correct the error in solving the equation.

$$\begin{array}{l}
 \times (x - 2)^2 + 16 = 25 \\
 x - 2 + 4 = \pm 5 \\
 x + 2 = \pm 5 \\
 x = -2 \pm 5 \\
 x = 3 \text{ and } x = -7
 \end{array}$$

In Exercises 11–13, solve the equation by factoring.

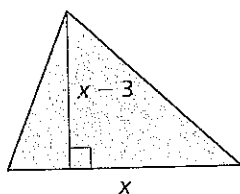
11. $0 = x^2 - 4x + 4$

12. $x^2 + x = 6$

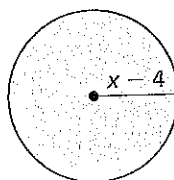
13. $m^2 + 4m = 0$

In Exercises 14 and 15, find the value of x .

14. Area of triangle = 27



15. Area of circle = 9π



In Exercises 16–19, solve the equation using any method. Explain your reasoning.

16. $\frac{c^2}{8} - 3 = 2$

17. $7v = v^2$

18. $-3(p + 2)^2 = 12$

19. $x^2 - 5x - 24 = 0$

20. Write a quadratic function in the form $f(x) = x^2 + bx + c$ that has zeros 2 and -12 .

3.1 Practice B

In Exercises 1–6, solve the equation by graphing.

1. $x^2 - 1 = 0$

2. $6x^2 = 4x + 2$

3. $x^2 - 14 = -5x$

4. $9x - 9 = -4x^2$

5. $\frac{1}{2}x^2 - 2x = 6$

6. $-3x = \frac{1}{3}x^2 + 6$

In Exercises 7–9, solve the equation using square roots.

7. $(k - 3)^2 = 121$

8. $3(x + 1)^2 - 4 = 5$

9. $\frac{4}{3}x^2 = \frac{2}{3}x^2 + 6$

10. Write an equation of the form $(x - a)^2 + b = d$ that has (a) two integer solutions, (b) two irrational solutions, and (c) no real solutions.

In Exercises 11–14, solve the equation by factoring.

11. $0 = x^2 - 121$

12. $3k^2 + 2k = 2k^2 + 11k$

13. $-w^2 - 3w - 7 = -2w^2 + 3$

14. $2y^2 = 6y$

In Exercises 15 and 16, solve the equation using any method. Explain your reasoning.

15. $x^2 - x + \frac{6}{25} = 0$

16. $n^2 - 1.5 = 0.19$

In Exercises 17–20, find the zero(s) of the function.

17. $h(x) = x^2 + 7x - 18$

18. $j(x) = x^2 - 16$

19. $g(x) = x^2 - 13x$

20. $f(x) = 9x^2 - 24x + 16$

21. A local kayak rental shop rents 28 kayaks per week when it charges \$25 per day. For each \$5 increase in price, the shop loses four kayak rentals per week. How much should the kayak rental shop charge to maximize weekly revenue? What is the maximum weekly revenue?
22. You drop a coin into a fountain from a height of 15 feet. Write an equation that models the height h (in feet) of the coin above the fountain t seconds after it has been dropped. How long is the coin in the air?